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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/791,818	03/04/2004	Sean Chang	0941-0927P	3664
2292 7590 01/08/2009 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747				
EXAMINER JOHNSON, MATTHEW A				
ART UNIT		PAPER NUMBER		
3656				
NOTIFICATION DATE		DELIVERY MODE		
01/08/2009		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

### Office Action Summary

**Application No.**

10/791,818

**Applicant(s)**

CHANG, SEAN

**Examiner**

MATTHEW JOHNSON

**Art Unit**

3656

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 September 2008.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 8-11 and 13-24 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 8-11 and 13-24 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 04 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO/SB08)  
Paper No(s)/Mail Date \_\_\_\_\_  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 24 is rejected under 35 U.S.C. 102(b) as being anticipated by Hung (USP-6,747,803).

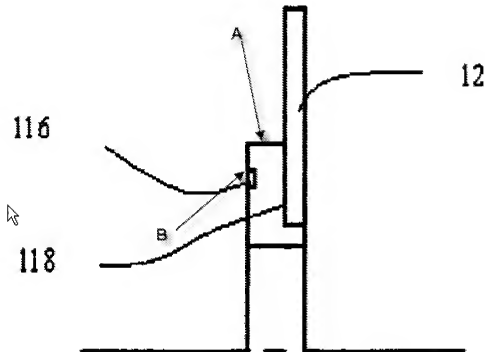
Re clm 24: Hung discloses a color wheel module (1) comprising a(n):

- Motor (2)
- Color filter disk (12) driven by the motor
- Holder (11) disposed on the color filter disk and having a sidewall (A, see attached Fig. 2 below) extended away from the color filter disk (the sidewall A extends to the left away from disk 12), and having a flange (B, see attached Fig. 2 below) located on a top end of the side wall and extending toward a center of the color filter disk (stepped portion B has a thickness that extends towards a center of the disk)
- Curable fluid (UV glue) contained in the holder, wherein when the motor drives the color filter disk to rotate

The limitation, “the curable fluid will be cured after the motor and the color filter disk are balanced simultaneously” is a product-by-process claim and is not given

patentable weight in an apparatus claim. The prior art discloses all of the claimed structure and therefore anticipates the claim. (See MPEP 2113).

**From Fig. 2**



**Claim Rejections - 35 USC § 103**

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 8-11 and 13-15, are rejected under 35 U.S.C. 103(a) as being unpatentable over Han (USP-6,731,588) in view of Hung (USP-6,747,803).

Re clm 8: Han discloses an anti-vibration apparatus applied in a rotating disk of an image display system for eliminating unbalance of the rotating disk, comprising a(n):

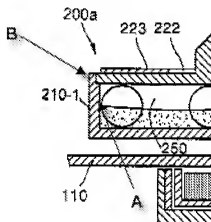
- Motor (100)
- Spindle (130) housed in the motor and coupled to a rotating disk (1)
- Holder (200) having a side wall (A, see attached Fig. 16 below) extended away from the rotating disk (in the negative y direction), and having a flange (B, see attached Fig. 16 below) formed on a top end of the side wall as a monolithic piece and extending toward a center of the rotating disk (portion A has a thickness that extends towards a center of the rotating disk)
- Fluid (272) contained in the holder
- Predetermined amount of spheres (271) placed in the holder (C11 L9-13, C16 L47-57)

While Han does indeed disclose a fluid and a predetermined amount of spheres contained in the holder, he does not disclose a curable fluid.

Hung teaches curable fluid (UV glue) contained in the holder that is cured to achieve a permanent balance of the rotating disk (12).

It would have been obvious to one having ordinary skill in the art at the time of the invention to have substituted the fluid in the device of Han with a curable fluid, as taught by Hung, for the purpose of achieving a permanent balance of the rotating disk.

**From Fig. 16**



Re clms 9 and 10: Han discloses that the holder (200) is formed by an annular element or a bowl (210) bonded to the disk by means of coupling (220,222,223; C9 L31-38).

Re clm 11: Hung further discloses a thermal sensitive curable fluid (UV glue).

Re clm 13: Han discloses that the holder (200) and the rotating disk (1) are coaxial (See Fig. 2).

Re clm 14: Han discloses that the spheres (271) are made of metal (C10 L23-33).

Re clm 15: The examiner notes that the limitation, "...the curable fluid is cured by providing photo energy, thermal energy or catalyst" is a product-by-process claim. The patentability of a product does not depend on its method of production (See MPEP 2113). Additionally, Hung further discloses the curable fluid is cured by providing thermal energy (UV glue, C2 L12-14).

5. Claims 8-11 and 13-24, are rejected under 35 U.S.C. 103(a) as being unpatentable over Hung (USP-6,747,803) in view of Goodrich et al. (USP-3,696,688).

Re clm 8: Hung discloses an anti-vibration apparatus applied in a rotating disk of an image display system for eliminating unbalance of the rotating disk, comprising a(n):

- Motor (2)
- Color filter disk (12) driven by the motor
- Holder (11) disposed on the color filter disk and having a sidewall (A, see attached Fig. 2 below) extended away from the color filter disk (the sidewall A extends to the left away from disk 12), and having a flange (B, see attached Fig. 2 below) located on a top end of the side wall and extending toward a center of the color filter disk (stepped portion B has a thickness that extends towards a center of the disk)
- Curable fluid (UV glue) contained in the holder, wherein when the motor drives the color filter disk to rotate

The limitation, "the curable fluid will be cured after the motor and the color filter disk are balanced simultaneously" is a product-by-process claim and is not given

patentable weight in an apparatus claim. The prior art discloses all of the claimed structure and therefore anticipates the claim. (See MPEP 2113).

While Hung does indeed disclose that the curable fluid flows to the periphery side of the holder under a vibration force and is distributed in such a way to balance the disk, he does not disclose a predetermined amount of spheres placed in the holder.

Goodrich teaches an anti-vibration apparatus for eliminating vibration of a rotating disk resulting from unbalance comprising a predetermined amount of spheres (20) placed in a holder (17) formed on a rotating disk (10) for the purpose of providing a better damping device which can reduce vibrations cause by a higher amplitude of vibration during a higher rotational speed.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to add a predetermined amount of spheres into the curable fluid of Hung for the purpose of providing a better damping device which can reduce vibrations cause by a higher amplitude of vibration during a higher rotational speed.

Re clms 9 and 10: Hung further discloses that the holder (11) is formed by an annular element bonded by means of adhering and coupling to the disk (12).

Re clm 11: Hung further discloses a thermal sensitive curable fluid (UV glue).

Re clm 13: Hung further discloses that the holder (11) and the rotating disk (12) are coaxial.

Re clm 14: Goodrich further discloses that the spheres (20) are made of metal (C1 L55).



Re clm 15: The examiner notes that the limitation, "...the curable fluid is cured by providing photo energy, thermal energy or catalyst" is a product-by-process claim. The patentability of a product does not depend on its method of production (See MPEP 2113). Additionally, Hung further discloses the curable fluid is cured by providing thermal energy (UV glue, C2 L12-14).

Re clm 16: Hung discloses a color wheel module (1) applied in an image display system for modulating the color of an incident light comprising a(n):

- Motor (2)
- Disk-shaped color filter (12) with a plurality of thin film color filters (12a-12d)
- Holder (11) formed on the disk-shaped color filter disk and having a sidewall (near 116, Fig. 2) extended away from the disc-shaped color filter disk (the sidewall of 11 extends to the left away from disk 12)
- Curable fluid (UV glue) contained in the holder

While Hung does indeed disclose that the curable fluid flows to the periphery side of the holder under a vibration force and is distributed in such a way to balance the disk, he does not disclose a predetermined amount of spheres placed in the holder.

Goodrich teaches an anti-vibration apparatus for eliminating vibration of a rotating disk resulting from unbalance comprising a predetermined amount of spheres (20) placed in a holder (17) formed on a rotating disk (10) for the purpose of providing a

better damping device which can reduce vibrations cause by a higher amplitude of vibration during a higher rotational speed.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to add a predetermined amount of spheres into the curable fluid of Hung for the purpose of providing a better damping device which can reduce vibrations cause by a higher amplitude of vibration during a higher rotational speed.

The limitation, "the curable fluid will be cured after the motor and the color filter disk are balanced simultaneously" is a product-by-process claim and is not given patentable weight in an apparatus claim. The prior art discloses all of the claimed structure and therefore anticipates the claim. (See MPEP 2113).

Re clms 17 and 18: Hung further discloses that the holder (11) is formed by an annular element bonded by means of adhering and coupling to the disk (12).

Re clm 19: Hung further discloses a thermal sensitive curable fluid (UV glue).

Re clm 20: Hung further discloses that the holder has a flange located on a top end of the side wall thereof and extended inwards (C2 L39-40, square groove 116).

Re clm 21: Hung further discloses that the holder (11) and the rotating disk (12) are coaxial.

Re clm 22: Goodrich further discloses that the spheres (20) are made of metal (C1 L55).

Re clm 23: Hung discloses a color wheel module (1) comprising a(n):

- Motor (2)
- Color filter disk (12) driven by the motor

- Holder (11) disposed on the color filter disk and having a sidewall (near 116, Fig. 2) extended away from the color filter disk (the sidewall of 11 extends to the left away from disk 12)

While Hung discloses a curable fluid that is fixed after the balance of the color wheel module is attained, he does not disclose at least one sphere placed in the holder.

Goodrich teaches an anti-vibration apparatus for eliminating vibration of a rotating disk resulting from unbalance comprising at least one sphere (20) placed in a holder (17) formed on a rotating disk (10) for the purpose of providing a better damping device which can reduce vibrations cause by a higher amplitude of vibration during a higher rotational speed.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to add at least one sphere into the curable fluid of Hung for the purpose of providing a better damping device which can reduce vibrations cause by a higher amplitude of vibration during a higher rotational speed.

The limitation, "the curable fluid will be cured after the motor and the color filter disk are balanced simultaneously" is a product-by-process claim and is not given patentable weight in an apparatus claim. The prior art discloses all of the claimed structure and therefore anticipates the claim. (See MPEP 2113).

### ***Response to Arguments***

6. Applicant's arguments filed 9/16/2008 have been fully considered but they are not persuasive.

Regarding claim 24, Applicant argues that Hung does not disclose a flange located on a top end of the side wall and extending toward a center of the color filter disk. Merriam-Webster's Collegiate Dictionary *Tenth* Edition, provides the following definition for the term "flange": a rib or rim for strength, for guiding or for attachment to another object. As described above and shown in attached Fig. 2, Hung discloses a holder 11 having a sidewall A, the sidewall having a top end that forms a flange (stepped rim portion B) that has a thickness that extends towards a center of the disk as shown in Fig. 2. As broadly recited, Hung does indeed disclose a flange formed on a top end of the sidewall.

Regarding claim 8, Applicant argues that Han does not disclose a flange formed on a top end of the side wall as a monolithic piece and extending toward a center of the rotating disk. As described above and shown in attached Fig. 16, Han discloses a sidewall A, having a flange B formed on the top end of the sidewall as a monolithic piece. Fig. 15 also clearly shows the portion corresponding to B in the attached figure is a rim that has a thickness extending towards the center of the disk. As broadly recited, Han does indeed disclose a flange formed monolithically on a top end of the sidewall.

Regarding the rejection based on Hung in view of Goodrich, Applicant further argues that neither reference teaches that the spheres are fixed by UV glue. In response to Applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Goodrich

discloses a holder containing a fluid and a plurality of spheres placed in the holder. Hung teaches the use of UV glue for the purpose of permanently balancing the disk. A full explanation of the rationale for combining Hung and Goodrich can be found in the BPAI decision (Appeal No. 2007-1243) for Applicant's co-pending application 10/336,018.

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hehn (USP-6,651,527) discloses a balancing disk (1) having a holder (2, 3) having a sidewall and a flange (25) extending inwards toward a center of the disk (see Figs. 7-9) for the purpose of ensuring the integrity of the interconnection between the holder (3) and the top cover (2; C3 L39-62).

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MATTHEW JOHNSON whose telephone number is (571)272-7944. The examiner can normally be reached on Monday - Friday 9:00a.m. - 5:30p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on 571-272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Matthew Johnson/  
Examiner, Art Unit 3656

/Richard WL Ridley/  
Supervisory Patent Examiner, Art Unit 3656

